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[No. I.]

Notes on *Myosurus*.

BY ASA GRAY.

It has come in my way to take up the genus *Myosurus*. My preliminary study leaves some points in doubt, which may be settled by the additional materials and observations which the following remarks are designed to solicit.

M. MINIMUS, L.—Down to recent times this was the only recognized species, for *M. Shortii*, Raf., is clearly understood to be identical with the Linnean species. Some authors have regarded our *M. minimus* as an introduction from Europe. I have never seen it growing, and therefore cannot form a judgment on personal observation. It is not known in the Northern Atlantic States east of the Alleghanies. In Elliott's time it was known in the Southern Atlantic States, by a station at Augusta, Georgia: but from Kentucky, Tennessee, and Texas it extends so far westward that we can hardly suppose it to have been an European importation. But a good many far-western specimens which have been referred to it belong to another species. If indigenous, it is one of those plants which are common to Europe and America, but not to Asia. The opinion that it is truly indigenous to America is much strengthened by the fact that this country possesses all the other species. In a very recent *Revision of Myosurus* by Mr. Greene, in Bull. Calif. Acad., i., 276-279, two varieties of *M. minimus* are described. The first, var. *apus*, is said to have the scapes only a line or two long, and it was collected by Mr. Orcutt back of San Diego. Mr. Cleveland sends us from the same habitat fruiting specimens with scapes

*Our specimens of No. 3 of Drummond's Coll. from New Orleans, distributed by Sir Wm. Hooker, are truly this plant, although Mr. Greene, in Bull. Calif. Acad., i., 278, mentions that what he has from this source is *Plantago pusilla*.

from a quarter to a full half-inch long, which very well match a similar form in Todaro's *Flora Sicula Exsiccata*. His var. *fili-formis* needs further investigation of mature specimens of its various forms. Some of the specimens referred to it may belong to a variety of the next species, but not the Guadalupe plant nor that of Rusby from Arizona.

M. APETALUS, Gay.—(Fl. Chil., i., 31, t. 1, fig. 1.) It will be seen that this older name should be restored. When Mr. Bentham sent his name and account of *M. aristatus* to Sir Wm. Hooker, the latter recognized the identity of Geyer's with Gay's Chilean plant; but, finding petals, discarded the latter's name as a false one. Sir Joseph Hooker in the *New Zealand Flora*, followed his father, although stating that the specimens are apetalous. And Bentham says the same of the Australian plant, which he refers to *M. minimus*, the *M. australis* of Mueller, which probably belongs to the following variety of the present species; but my specimens are too young to prove it. I am convinced that the beak, which suggested Bentham's name, is fallacious as a character, and that a series may be arranged from the longest beaked forms to those which are as beakless as *M. minimus* often, but not always, is. Consequently, if the name *apetalus* may be rejected because the species is often petaliferous, so may that of *aristatus*, because the arista or beak is often wanting. Since the latter name must subside, we need not insist that the name, as well as the character, was published as Bentham's. So that the latter's incidental mention of it, sixteen years later, as "*M. aristatus*, Geyer," whether by mistake or intention, can hardly require Mr. Greene to cite the published name as of Geyer.

Var. *LEPTURUS*.—I give this name to a series of specimens which have generally been referred to *M. minimus* on account of having as short a beak or tip as has the akene of that species, but in which the akenes are oblong, narrower, and more carinate on the back, and the body thinner walled and more utricular, and the seed oblong, as in ordinary '*M. apetalus*, in this even elongated-oblong. The best fruiting specimens I possess are those of Lemmon from California (No. 1 of Coll., 1874), and of the Howell's from N. E. Oregon (No. 38 of Coll., 1882). Hartweg's No. 1629, from the Sacramento Valley, Macoun's No. 50, from Vancouver's

Island in 1875, and even Parry's No. 11 of his Wyoming expedition, may belong here, but are not in fruit. Yet they may have broader akenes and oval seeds, which would identify them with Greene's *M. minimus* var. *filiformis*, of which, as I have said, more mature specimens are much wanted. The very depauperate specimens from Antioch, Cal., are certainly of this variety of *M. apetalus*. Suksdorf's No. 492, Coll. 1885, from the Columbia River, is quite intermediate between undoubted *M. apetalus* and this var. *lepturus*.

M. SESSILIS, Watson, (Proc. Am. Acad., xvii., 363), with carpel-spikes even at maturity perfectly sessile at the root, oval akenes, with acutely carinate back continued into a beak, and short oval seeds, must be a good species, known as yet only in Howell's specimens (No. 383 of 1882), from alkaline flats of N. E. Oregon.

M. CUPULATUS, Watson, l. c., is most distinct. Its small akenes thicken on the sides and round the back with a corky or coriaceous growth of whitish color, the upper edge of which forms a rim or shallow cup around the base of the green and gladiate-subulate beak; the proper cell is small, thin-walled, and filled by the oval seed.

M. ALOPECUROIDES, Greene (in Bull. Calif. Acad., i, 278), the latest-published species, appears to be a good one; but more mature fruit is desirable. It comes between *M. apetalus* and *M. cupulatus*, yet with the general shape of the akenes more like that of *M. minimus*. It is characterized by the development of a soft-cellular border around the oblong back of the akene, which thus becomes concave, and the conspicuous beak is laterally flattened, as in *M. cupulatus*, but is narrower. The short spur of the sepals may not be trusted, for this is nearly wanting in some flowers of *M. apetalus*.

The fruit of *Myosurus* is said to be an akene; it might as well be called an utricle, or even a follicle. For in all the species, though least in *M. minimus*, the ventral portion or proper body of the mature carpel is soft-cellular or thin, and more or less scarious, and the ventral suture very commonly dehisces when the carpels fall from the receptacle.

A word upon the authorship of the genus. Linnæus, as his manner is, writes "*Myosurus*, Dill." So, also, do Endlicher, Jussieu (except that he goes further back), De Candolle, Torrey and Gray, etc., etc. All this Mr. Greene must have overlooked, when, in his revision of *Myosurus*, he reclaimed this genus for Dillenius in a special foot-note, and supposed that he stood alone. The practice of recognizing the genera of Tournefort, Dillenius, and the like (when adopted by Linnæus, or subsequently taken up) is general, though not universal. Nevertheless one can understand and appreciate the reasons which governed the authors of the last *Genera Plantarum*, when they decided not to go back of Linnæus. Yet we prefer to follow a fairly established rule—to follow, indeed, the practice of Linnæus himself.

I add a key to the species of *Myosurus* so far as I now know them.

* Mature carpels with back carinate from base to apex, not suberose nor cellular thickened.

† Scapose.

M. APETALUS, Gay.—Mature carpels oblong, thin-walled, with narrow prominently carinate back, prolonged into an ascending or loose beak; seed oblong.

Var. LEPTURUS.—Slender-spiked; carpels less carinate on the broader back; beak short and erect or obsolete; seed elongated-oblong.

M. MINIMUS, L.—Mature carpels somewhat quadrate, broad-backed; seed oval.

†† Scape none, even in fruit.

M. SESSILIS, Watson.—Carpels of the thickish spikes oval, more scarious-utricular, with narrow salient keel prolonged into a subulate beak; seed short, oval.

** Mature carpels with cellular or suberose thickening around the salient and laterally flattened-beaked keel.

M. ALOPECUROIDES, Greene.—Short-scaped spikes thickish; oblong back of akenes with a soft-cellular border and barely concave, the body wholly scarious-cellular; seed oblong-oval.

M. CUPULATUS, Watson.—Slender-scapose and slender-spiked; mature akenes roundish, with corky or cartilaginous thickening of back and sides, forming a cupulate border around the triangular-subulate, much compressed beak; seed oval.

Notes on the New Jersey Flora.

BY L. H. LIGHTHIPE.

At Rocky Hill, Somerset Co., N. J., I collected *Staphylea trifolia*, L.; *Orchis spectabilis*, L.; *Obolaria Virginica*, L.; *Panlownia imperialis*, Sieb. and Zucc. This last has escaped from cultivation and is growing among the rocks along the west bank